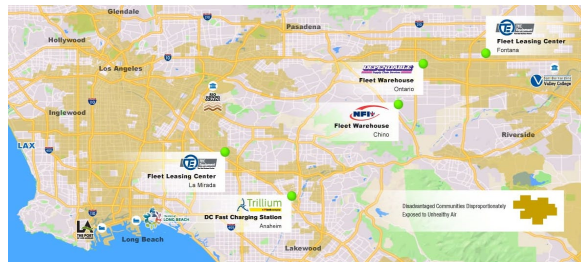


Volvo LIGHTS Project

Low Impact Green Heavy Transport Solutions



This project creates a zero-emission goods movement system from the Ports of Long Beach and Los Angeles to four freight handling facilities in disadvantaged communities. This project deploys pre-commercial and commercial zero-emission technologies, including the introduction of Volvo's North American Class 8 battery electric truck. The project also includes data collection, maintenance training, sales and service support, and outreach to accelerate commercialization of heavy-duty, battery electric technologies.

Dates: 2/25/2019 – 6/30/2021
Grantee: South Coast AQMD
Partners: Volvo, DHE, NFI, TEC Equipment, CALSTART, Greenlots, Trillium, SCE, UCR CE-CERT, Rio Hondo and San Bernardino Valley College, Reach Out, POLA, POLB
Grant Amount:
 CARB Contribution: \$44,839,686
 Matching Funds: \$45,855,308
 Project Total: \$90,694,994



Vehicles/Equipment Funded

52 pre-commercial and commercial Class 8 vehicles and infrastructure deployed at freight handling facilities:

- 23 Heavy-duty battery electric trucks (HDBET)
- 29 Off-road battery electric tractors, forklifts
- 58 Non-proprietary Level 2 and 50 kW and 150 kW DC fast chargers
- 1.9 GWh annual solar energy

Featured innovative technologies:

- Multiple truck configurations to meet local and regional expected applications and range
- New lithium ion battery chemistry for increased energy density by >20%
- Self-learning control algorithms that optimize energy usage and range
- Targeted HDBET platform in three market segments showcasing highest potential: drayage, regional distribution, short haul
- During the project, Volvo Class 8 HDBET will be certified for commercial sale in California
- Solar and second life batteries to mitigate grid impacts and energy costs
- Networked chargers with intelligent vehicle telematics
- Leasing program for customer fleets in 2021

Lessons Learned

- Field certification may be an interim solution to install recognized components at a site
- Infrastructure deployment lead times are longer, thereby making it challenging to align with equipment delivery

Status Updates

- Five trucks delivered to TEC Fontana Dec. 2019. Three HD tractors built April 2020. Production of trucks by late 2020.
- February Technology Showcase featured first five trucks and partner project contributions for 200+ media, fleet, dealer, public official and NGO guests
- Two 50 kW chargers at TEC Fontana; 50 kW/150 kW chargers, yard tractors/forklifts April 2020; solar at DHE July 2020.



March 2020